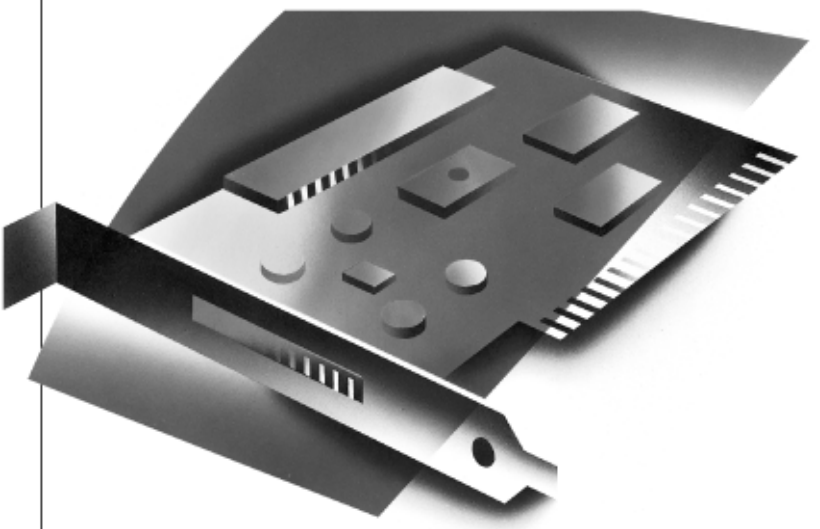
adaptec

INSTALLATION GUIDE

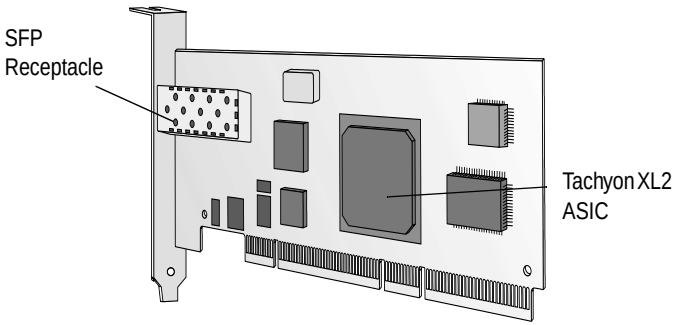


ADAPTEC FIBRE CARD 9210LP

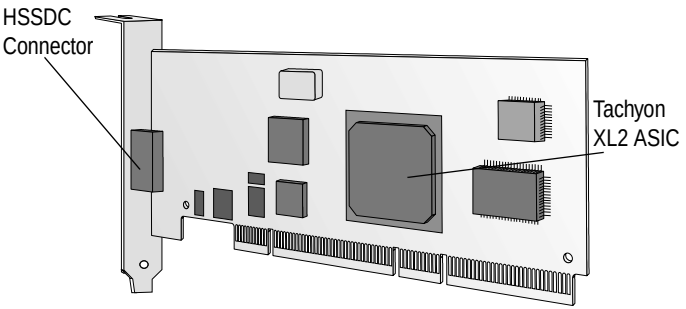
2 GIGABIT FIBRE CHANNEL HOST BUS ADAPTER

INTRODUCTION

The Adaptec Fibre Card 9210LP provides a 2 gigabit interface between a server and a Fibre Channel storage system and installs into a standard PCI slot. The Adaptec Fibre Card 9210LP optical and Adaptec Fibre Card 9210LPC copper adapters supports a high-performance 64-bit and 66 MHz PCI bus (backward compatible to 32-bit and 33 MHz). The PCI bus provides a high-speed (up to 528 MBps) path between the system board and the Fibre Channel adapter. The Adaptec Fibre Card 9210LP is a PCI Bus Master device and requires a PCI Bus Mastering slot that conforms to the PCI Local Bus Specifications, version 2.2 or previous versions.



Adaptec Fibre Card 9210LP With Optical SFP Connector



Adaptec Fibre Card 9210LPC With Copper HSSDC Connector

This installation guide explains how to:

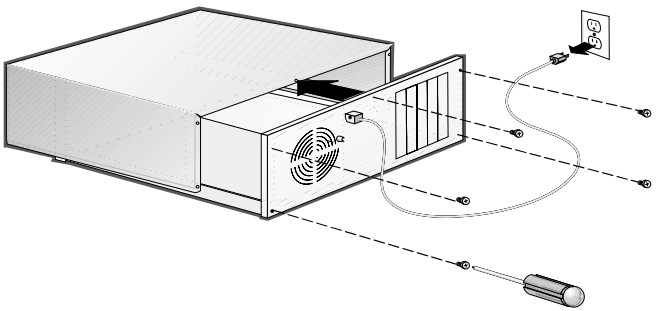
- Install the Adaptec Fibre Card 9210LP/9210LPC
- Change brackets on the Adaptec Fibre Card 9210LP/9210LPC
- Install the Small Form Factor Pluggable (SFP) (on the Adaptec Fibre Card 9210LP only)
- Connect Fibre Channel cables
- Verify the adapter and cable installation
- Install Adaptec Fibre Card 9210LP/9210LPC device drivers

INSTALLING THE ADAPTEC FIBRE CARD 9210LP

STEP 1 Discharge any static electricity build-up before handling the Adaptec Fibre Card 9210LP by touching a grounded metal object (such as the exposed metal parts on the back of your computer).

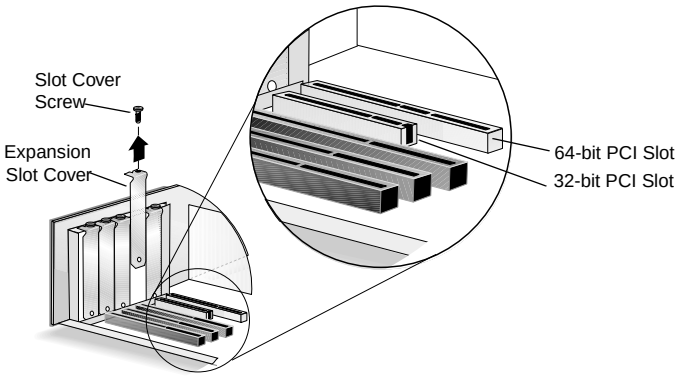
WARNING Turn OFF power to the computer and disconnect the power cord.

STEP 2 After you turn OFF your computer and unplug the power cord, remove the cover from the computer.



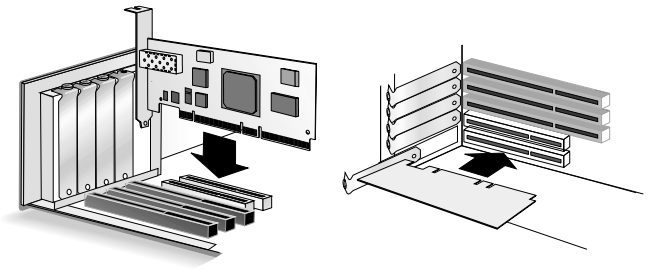
STEP 3 Locate an unused 64-bit PCI expansion slot and remove the expansion slot cover. If the computer does not have a 64-bit slot, you can install the card in a 32-bit PCI slot.

Select a PCI expansion slot. Save the slot cover screw for use in Step 4.



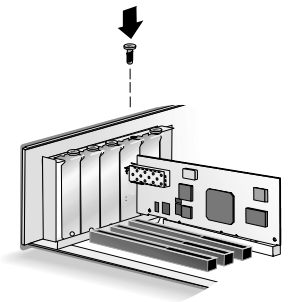
Computers may have vertical or horizontal expansion slots. Refer to your computer manual to locate the PCI slots. If your computer is a tower model, place it on its side to make it easier to install the Adaptec Fibre Card 9210LP.

WARNING Be careful when inserting the Adaptec Fibre Card 9210LP into a PCI slot. Some older 32-bit slots do not accommodate 64-bit cards, and the card or slot may break if you use force.



Vertical Installation Horizontal Installation

STEP 4 Insert the Adaptec Fibre Card 9210LP into the PCI expansion slot. Press down firmly until the card clicks into place; then replace the slot cover screw. When installed properly, the card should appear level with the expansion slot, as shown below.



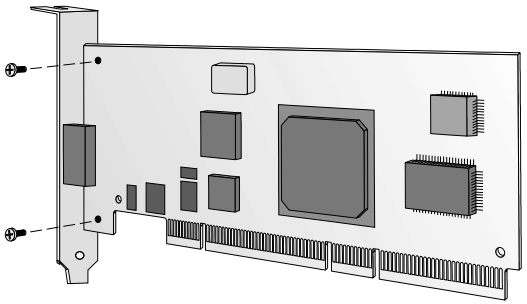
CHANGING THE BRACKET ON YOUR ADAPTER

Your Adaptec Fibre Card 9210LP comes with a low profile bracket. If you need to attach a standard height bracket, follow these steps:

STEP 1 Unscrew the two screws located on the face of your Fibre Channel adapter near your bracket. Set the screws aside.

STEP 2 Remove the bracket.

STEP 3 Attach the new bracket by lining up the bracket mounting tabs with the matching holes in your Fibre Channel adapter. Fasten the two screws you set aside in Step 1 by twisting securely into the holes.

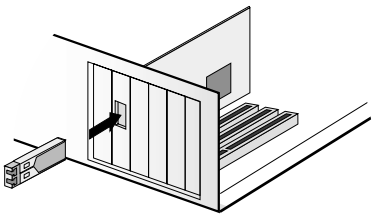


INSTALLING THE SFP

The Adaptec Fibre Card 9210LP optical interface requires the installation of a Small Form Factor Pluggable (SFP) module for the external connector interface before connecting the external Fibre Channel cables. For more information about the SFP, see the *Adaptec Fibre Card 9210LP User's Reference*.

STEP 1 Install the SFP into the receptacle on the adapter.

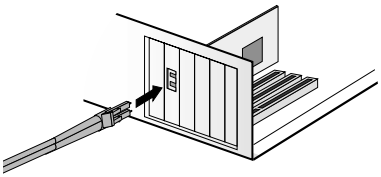
STEP 2 Make sure the SFP fits securely into the receptacle.



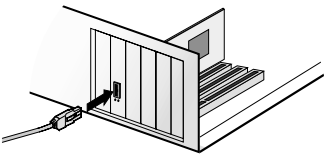
NOTE You can only install the SFP one way, as the SFP and guide rails inside the adapter receptacle are keyed.

CONNECTING CABLES

STEP 1 Select the correct cable that matches the Adaptec Fibre Card 9210LP you have installed.



Adaptec Fibre Card 9210LP
Optical (LC)



Adaptec Fibre Card 9210LPC
Copper (HSSDC)

STEP 2 Install the end connectors of your cable into your computer. The SFP and Fibre Channel cable are keyed, so they can only fit one way.

CAUTION For optical Fibre Channel cables, support the cable so that you do not have a bend radius of less than 3 inches.

CAUTION For optical and copper Fibre Channel cables, support and route the cable to prevent damage from sharp edges or from being crushed by nearby equipment.

VERIFYING THE ADAPTER

You can verify the adapter and cable installation by powering up the system and looking at the two LEDs on the bulkhead of the adapter. Under normal operation, the LEDs operate as follows:

Upon Power-Up

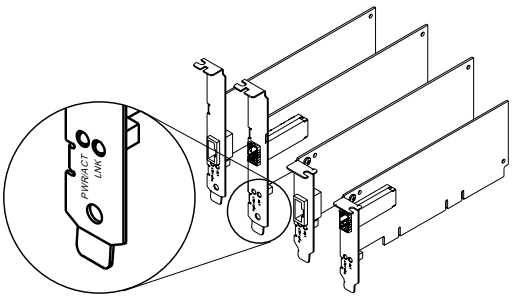
- PWR/ACT LED is on
- LNK LED is off

During Card Initialization by the Host OS

- PWR/ACT LED will flash as Fibre Channel devices are identified
- LNK LED is off

Once the Card has been Initialized by the Host OS

- PWR/ACT LED will flash at one second intervals
- LNK LED is on if the link is up



Adaptec Fibre Card 9210LP and Adaptec Fibre Card 9210LPC With Low Profile and Standard Height Brackets

INSTALLING THE ADAPTEC FIBRE CARD 9210LP DEVICE DRIVER FOR WINDOWS NT 4.0

Installing the Driver When Installing Windows NT 4.0

The Adaptec Fibre Card 9210LP driver is not embedded on the Windows NT 4.0 installation disks (or CD-ROM) and must be added during Windows NT installation. See your operating system documentation for instructions.

NOTE In order to boot the operating system from a drive attached to the Adaptec Fibre Card 9210LP, the Adaptec Fibre Card 9210LP must be connected to a drive without a Fibre Channel switch attached.

Completing a Fresh Windows NT 4.0 Installation From Floppy Disk

STEP 1 Start your system with the Windows NT 4.0 Boot Disk in the floppy disk drive.

STEP 2 When prompted, insert disk #2 into your floppy disk drive. After a few moments you will see a blue screen. To set up Windows NT now, press Enter.

STEP 3 Press S to skip auto-detection of devices in your system.

STEP 4 Press S again to specify an additional device.

STEP 5 Press Enter to select Others; insert the Adaptec Fibre Channel Drivers disk in your floppy disk drive.

STEP 6 Using the arrow keys, select the following driver and press Enter:

Adaptec 1Gb/2Gb Family PCI Fibre Channel Controller (NT 4.0)

STEP 7 To add the driver for other devices in your system, press S for each additional device and insert the appropriate driver disk. Your system manufacturer and respective device vendor should provide these device drivers.

STEP 8 Press Enter to continue with the Windows NT operating system setup. Follow the instructions on-screen and in the Windows NT documentation to complete the installation.

Completing a Fresh Windows NT 4.0 Installation From CD-ROM

STEP 1 Insert the Windows NT 4.0 CD into the CD-ROM drive.

STEP 2 Start your system. Press the F6 key when you see the following message:

Setup in inspecting your computer's hardware configuration...

If you do not see this message, your system might not be set up to boot from a CD-ROM. You will need to install from floppy disks. See *Completing a Fresh Windows NT 4.0 Installation From Floppy Disk* on page 9.

STEP 3 When prompted, press S to specify an additional device.

STEP 4 Press Enter to select Others; insert the Adaptec Fibre Channel Drivers disk in your floppy disk drive.

STEP 5 Using the arrow keys, select the following driver and press Enter:

Adaptec 1Gb/2Gb Family PCI Fibre Channel Controller (NT 4.0)

STEP 6 To add the driver for other devices in your system, press S for each additional device and insert the appropriate driver disk. Your system manufacturer and respective device vendor should provide these device drivers.

STEP 7 Press Enter to continue with the Windows NT operating system setup. Follow the instructions on-screen and in the Windows NT documentation to complete the installation.

Install the Driver When Windows NT 4.0 is Already Installed

STEP 1 Start Windows NT and log into an account with administrative privileges.

STEP 2 Insert the Adaptec Fibre Channel Drivers disk into the floppy disk drive.

STEP 3 From the Start button, select Settings.

STEP 4 From the Settings menu, select Control Panel.

STEP 5 From the Control Panel window, select SCSI Adapters icon.

STEP 6 From the SCSI Adapters window, select Drivers tab.

STEP 7 From the Drivers window, select Add.

STEP 8 Select Have Disk.

STEP 9 Click the Browse button.

STEP 10 Double-click the Winnt4 folder.

STEP 11 Click the Open button.

STEP 12 Click OK.

STEP 13 Select Adaptec 1Gb/2Gb Family PCI Fibre Channel Controller (NT4.0).

STEP 14 Click OK.

STEP 15 When the installation is complete, remove the disk, shut down Windows NT, and Click Yes to reboot the system and start the driver.

Removing the Driver

In certain situations you might need to remove the device driver. Follow these steps to remove the driver:

STEP 1 Start Windows NT and log into an account with administrative privileges.

STEP 2 From the Start button, select Settings.

STEP 3 From the Settings menu, select Control Panel.

STEP 4 From the Control Panel window, select SCSI Adapters icon.

STEP 5 From the SCSI Adapters window, select Drivers tab.

STEP 6 Select Adaptec 1Gb/2Gb Family PCI Fibre Channel Controller (NT4.0).

STEP 7 From the Drivers window, select Remove.

STEP 8 Click on Yes to remove the driver.

STEP 9 When you are finished, shut down Windows NT, and reboot the system to remove the driver.

Additional Notes

WARNING The following registry files will change your systems registry information. Improper changes can cause the system to become unbootable. Use the options that pertain to your configuration. All the following changes require you to log into Windows NT 4.0 with administrative privileges.

- RAID Storage Arrays:

  If you are using RAID Storage arrays that are continually timing out on complex operations, you should increase the disk operation timeouts from a default of 10 to 60 seconds. The following registry file will change the TimeOutValue to 60 seconds to avoid NT timeouts (Event ID 9s on Windows NT's System EventLog).

  To increase the timeout value:

  1. Go to the Start button and select Run...
  2. Type `a:\winnt4\timeout.reg`
  3. Select OK for the pop up window.
  4. You need to reboot in order for the registry setting to take place.

- N-port support:

  If the switch is configured as an F_port, the adapter should be configured as an N_port. When the adapter is configured as an N_port:

  To enable or disable N_Port:

  1. Go to the Start button and select Run...
  2. Type `a:\winnt4\nport_on.reg`

     Replace `nport_on.reg` with `nport_off.reg` if you would like to disable N_port support.
  3. Select OK for the pop up window.
  4. You need to reboot in order for the registry setting to take place.

- Large I/O request performance enhancement:

  Performance enhancement for a large size I/O request could be done by increasing the maximum number of scatter-gather lists or NumberOfPhysicalBreaks used by the SCSI-PORT driver. This is only needed if you are running a special application that takes advantage of large I/O.

  The default when not specified in the Registry is 17 elements or a maximum transfer size of 64K. The Registry file provided will change the value to 65 elements or a maximum transfer size of 256K.

  To enable large I/O support:

  1. Go to the Start button and select Run...
  2. Type `a:\winnt4\largesg.reg`
  3. Select OK for the pop up window.
  4. You need to reboot in order for the registry setting to take place.

- EMC Symmetrix Storage array:

  For Windows NT 4.0, there are some registry adjustments needed for supporting the EMC Symmetrix Storage array. Adaptec has provided a registry file to adjust some parameters to EMC recommendations.

  To enable EMC Symmetrix support:

  1. Go to the Start button and select Run...
  2. Type `a:\winnt4\emc.reg`.
  3. Select OK from the pop up window.
  4. You need to reboot in order for the registry setting to take place.

- Windows NT 4.0 conflict of Agilent and Adaptec drivers:

  Windows NT 4.0 cannot distinguish the difference between Agilent Fibre Channel controllers and the Adaptec controller when installed in the same system. If both controllers are installed in the same system, either Adaptec's or Agilent's driver will load for all the controllers. To avoid this conflict, avoid using both controllers in the same system.

INSTALLING THE ADAPTEC FIBRE CARD 9210LP DEVICE DRIVER FOR WINDOWS 2000

Installing the Driver When Installing Windows 2000

The Adaptec Fibre Card 9210LP driver is not embedded on the Windows 2000 installation disks (or CD-ROM) and must be added during Windows 2000 installation. See your operating system documentation for instructions.

NOTE In order to boot the operating system from a drive attached to the Adaptec Fibre Card 9210LP, the Adaptec Fibre Card 9210LP must be connected to a drive without a Fibre Channel switch attached.

Completing a Fresh Windows 2000 Installation From CD-ROM or Floppy Disk

STEP 1 Start your system with the Windows 2000 CD-ROM in the CD-ROM drive. (If you are installing from floppy disk, insert the Windows Boot Disk into the floppy disk drive instead of the Windows 2000 CD-ROM.)

NOTE When using a CD-ROM drive to install Windows 2000 from a bootable CD-ROM, make sure Bootable CD-ROM support is enabled in either the system or SCSI BIOS setup utility. If these options are not available, use the Windows 2000 floppy disks to boot from.

STEP 2 You might see a message:

Press any key to boot from CD.

You will have five seconds to press a key to boot off the CD.

STEP 3 Press F6 when this message is displayed:

Press F6 if you need to install a third party SCSI or RAID driver...

STEP 4 A message will appear after a short time, prompting you to install your driver. Press S to specify a driver.

STEP 5 Insert the Adaptec Fibre Channel Driver disk into the floppy disk drive and press Enter.

STEP 6 You will be presented with a selection of driver choices. Using the arrow keys, select the following driver and press Enter:

Adaptec 1Gb/2Gb Family PCI Fibre Channel Controller (Windows 2000)

STEP 7 If you have no other controllers to add, press Enter to continue with the Windows 2000 installation.

Install the Driver When Windows 2000 is Already Installed

Before installing the Adaptec Fibre Card 9210LP driver, Windows 2000 should be installed.

Turn ON the system after installing the Adaptec Fibre Card 9210LP.

STEP 1 Start Windows 2000 and log into an account with administrative privileges.

Windows 2000 will automatically discover the new hardware and start a Found New Hardware Wizard to guide you through the device driver installation.

STEP 2 At the Welcome to the Found New Hardware Wizard window, select Next.

STEP 3 The window should say:

This Wizard will complete the installation for this device: Fibre Channel Controller

It will ask,

What do you want the wizard to do?

Select Search for a suitable driver for my device (recommended), then select Next.

STEP 4 For optional search locations, deselect Floppy disk drives and CD-ROM drives. Select Specify a location, then select Next.

STEP 5 Insert the Adaptec Fibre Channel Driver disk into the floppy disk drive.

STEP 6 Below the window requesting, Copy manufacturer's files from: type: `A:\WIN2000`

Select OK.

STEP 7 At the Driver Files Search Results window, select Next.

STEP 8 The next window may ask,

Do you want to continue the installation?

Select Yes.

STEP 9 At the Completing the Found New Hardware Wizard window, select Finish.

The device driver has been installed and loaded. The system does *not* require rebooting.

Removing the Driver

To uninstall the Adaptec Fibre Card 9210LP, follow these steps:

STEP 1 Turn OFF your system and remove the Adaptec Fibre Card 9210LP from your computer.

STEP 2 Once you reboot the system, Windows 2000 will recognize that the Adaptec Fibre Card 9210LP has been removed.

Additional Notes

WARNING The following registry files will change your systems registry information. Improper changes can cause the system to become unbootable. Use the options that pertain to your configuration. All the following changes require you to log into Windows 2000 with administrative privileges.

- RAID Storage Arrays:

  If you are using RAID Storage arrays that are continually timing out on complex operations, you should increase the disk operation timeouts from a default of 10 to 60 seconds. The following registry file will change the TimeOutValue to 60 seconds to avoid Windows 2000 timeouts (Event ID 9s on Windows 2000 System EventLog).

  To increase the timeout value:

  1. Go to the Start button and select Run...
  2. Type `a:\win2000\timeout.reg`
  3. Select OK for the pop up window.
  4. You need to reboot in order for the registry setting to take place.

- N-port support:

  If the switch is configured as an F_port, the adapter should be configured as an N_port. When the adapter is configured as an N_port:

  To enable or disable N_Port:

  1. Go to the Start button and select Run...
  2. Type `a:\win2000\nport_on.reg`

     Replace `nport_on.reg` with `nport_off.reg` if you would like to disable N_port support.
  3. Select OK for the pop up window.
  4. You need to reboot in order for the registry setting to take place.

- Large I/O request performance enhancement:

  Performance enhancement for a large size I/O request could be done by increasing the maximum number of scatter-gather lists or NumberOfPhysicalBreaks used by the SCSI-PORT driver. This is only needed if you are running a special application that takes advantage of large I/O.

  The default when not specified in the Registry is 17 elements or a maximum transfer size of 64K. The Registry file provided will change the value to 65 elements or a maximum transfer size of 256K.

  To enable large I/O support:

  1. Go to the Start button and select Run...
  2. Type `a:\win2000\largesg.reg`
  3. Select OK for the pop up window.
  4. You need to reboot in order for the registry setting to take place.

INSTALLING THE ADAPTEC FIBRE CARD 9210LP DEVICE DRIVER FOR SUN SOLARIS

Before installing the Adaptec Fibre Card 9210LP driver, Solaris should be installed.

NOTE You *cannot* install the operating system to a drive attached to the Adaptec Fibre Card 9210LP.

STEP 1 Login as root.

STEP 2 Turn off volume manager by typing:

```
#/etc/init.d/volmgt stop
```

Press Enter. Insert the Adaptec Fibre Channel Drivers disk in your floppy disk drive.

STEP 3 Type:

```
# mount -r -F pcfs /dev/fd0a /mnt
```

```
# cp /mnt/AFC9XXX_tar.Z /tmp
```

Press Enter.

STEP 4 Type:

```
# uncompress /tmp/AFC9XXX_tar.Z
```

Press Enter.

STEP 5 Type:

```
# tar xvf /tmp/AFC9XXX_tar
```

Press Enter.

STEP 6 Type:

```
# pkgadd -d /tmp/i386/diskette/.
```

Press Enter.

STEP 7 The following text will appear on the screen:

1. AFC9XXX Adaptec Fibre Channel for Solaris 8 Driver

Select package you wish to process (or 'all' to process all packages). (default: all) [?,??,q] :

Make appropriate selections to install AFC9XXX.

STEP 8 When the installation is completed, remove the disk.

STEP 9 Reboot the system with the Configuration option. This can be done by:

1. Using command:

   reboot -- -rv at a command prompt,

2. Booting system with option:

   timeout in 5 seconds

   Select (b)oot or (i)nterpreter:

   Type the command:

   b -rv

   Or,

3. Using command:

   ```
   # touch /.reconfigure
   ```

Removing the Driver

To uninstall the Adaptec Fibre Channel driver disk:

STEP 1 Start Solaris login as root.

STEP 2 From the Solaris console, type the command:

```
# pkgrm AFC9XXX
```

Press Enter.

The following message appears:

Do you want to remove this package? [y,n,?] y

This package contains scripts which will be executed with super-user permission during the process of removing this package.

Do you want to continue with this removal of this package [y,n,?] y

Make selections and press Enter after each selection.

STEP 3 When finished, shutdown Solaris.

STEP 4 Remove the Adaptec Fibre Card 9210LP.

STEP 5 Reboot your system.

INSTALLING THE ADAPTEC FIBRE CARD 9210LP DEVICE DRIVER FOR NOVELL NETWARE

Before loading the Adaptec Fibre Card 9210LP driver, verify that the programs NWPA.NLM and SCSIHD.CDM are loaded on your system. In addition, NetWare should be running in a normal state.

Loading the Driver on an Existing NetWare Server

STEP 1 Insert the Adaptec Fibre Channel driver disk for Novell NetWare 5.1 into the floppy disk drive.

NOTE The driver can either be installed from the hard drive or floppy disk drive.

For driver installation from the hard drive, copy the driver files to the server boot up directory under DOS, and specify the complete device path when typing the instruction below.

(For example: If the NetWare server directory is C:\NWSERVER, load C:\NWSERVER\AFC9XXX.HAM <RETURN> once the driver files have been copied to the C:\NWSERVER directory from the floppy disk.)

For installation from the floppy disk, continue with instructions as specified in Step 2.

STEP 2 Switch to the Command Console and type:

```
LOAD A:\NETWARE\AFC9XXX.HAM
```

Press Enter.

The driver starts loading and the display shows the slot number that the Adaptec Fibre Card 9210LP is in. If there are multiple Adaptec adapters installed in the system, the driver will prompt you with a list of slot numbers to select the appropriate controller. The driver must be loaded for each controller card added to the system configuration.

STEP 3 Remove the floppy disk after the driver loads. The drives are now ready to be configured using the normal network administrator access to create volumes and/or partition the drives. The startup.ncf file can be modified to load the driver automatically whenever the server is rebooted.

Unloading the Driver

To remove or update the driver, perform the following steps:

NOTE The old driver must be removed before installing the new one.

STEP 1 Confirm that there is no Fibre Channel activity occurring by dismounting the drive.

STEP 2 Switch to the Command Console.

STEP 3 To dismount the drive, type:

```
DISMOUNT VOLUME_NAME
```

Press Enter.

NOTE The **volume_name** is the volume that the user has created. If more than one volume needs to be dismounted, perform the Dismount command for each individual volume.

STEP 4 To remove the driver, type:

```
UNLOAD AFC9XXX.HAM
```

Press Enter.

When the driver is successfully removed, an acknowledgement from the system displays the message:

driver unloaded

The controller card is now deactivated.

Updating the Driver

To update the driver:

STEP 1 Perform the Unload procedure and make a backup of the old driver. See *Unloading the Driver* on page 24.

STEP 2 Perform the Load procedure. See *Loading the Driver on an Existing NetWare Server* on page 23.

Additional Notes

- During initial OS installation, do not install the OS on a device attached to the Adaptec Fibre Card 9210LP. Currently, AFC9XXX.HAM does not support booting off a Fibre Channel drive, but the SYS Volume may be installed to a Fibre Channel device.
- Do not use SGSCSI.CDM from the redbox CDM. Use SCSIHD.CDM for all drives.
- The AFC9XXX.HAM will support up to 124 FC-AL devices under Novell NetWare.
- When using CP4100 Mux from CrossRoads with the ADIC Tape library use firmware revision (9816D) or later on the CP4100.
- By default the HBA port is initialized as an NL port when connected to the fabric switch. To initialize the HBA port as an N_port when connecting to the fabric switch load the HAM driver using the following switch option: load AFC9XXX.HAM initasnport=1.
- Description of TIMEOUT parameter:

  Timeout parameter is provided to timeout the requests to a desired value in seconds between [10,90] seconds. If you don't specify it the default value of 45 seconds will be used while loading driver. One can specify this parameter as:

  ```
  LOAD AFC9XXX TIMEOUT=XX <RETURN>
  ```

  Where XX is a value between 10 and 90.

If you try to use a value less than 10 Sec OR greater than 90 Sec, driver will display the warning shown below and will load with default value of 45 Seconds.

AFC9XXX: Invalid timeout parameter

AFC9XXX: Default timeout value of 45 Sec will be used

- LUN Support Description:

  Maximum luns in PERIPHERAL_DEVICE_ADDRESSING mode our driver supports are 255(0...254) and For EMC in volume set addressing mode it supports 256(0...255).

INSTALLING THE ADAPTEC FIBRE CARD 9210LP DEVICE DRIVER FOR UNIXWARE

Installing the Driver When Installing UnixWare

To Install the Adaptec Fibre Channel driver at the same time you install UnixWare, follow these instructions:

STEP 1 Either insert the installation floppy disk of the UnixWare package into the boot floppy disk drive or insert the installation CD into a bootable CD-ROM. Reboot your computer.

Wait for the first UnixWare installation screen and prompt to appear, then follow the on-screen instructions.

STEP 2 When prompted to either Install Host Bus Adapter Drivers or Continue Installation, first, remove the Install disk if you are using an installation boot disk, then select Install Host Bus Adapter Driver.

STEP 3 Insert the Adaptec Fibre Channel driver disk for UnixWare 7.1.x into the primary floppy disk drive and press Enter (you cannot load drivers from a secondary floppy disk drive).

As the driver loads, a message identifying the installed host adapter briefly appears on screen.

STEP 4 If you have additional HBA disks, insert the next HBA disk, select Install Another HBA Disk, and press Enter.

If all of your HBA disks have been installed, remove the last HBA disk, select Continue Installation, and press Enter.

STEP 5 If necessary, enter the Device Configuration Utility (DCU) to view/change the UnixWare device configuration data.

STEP 6 Follow the on-screen instructions to continue with installation. Refer to the UnixWare documentation and on-screen help files for help in selecting options.

STEP 7 If your installation fails, go to the h screen to check for any error messages printed.

Type `Alt PrintScreen` at the same time then type h.

You should see something similar to the following if the Adaptec Fibre Channel driver has been loaded.

```
0:0, 0, 0:  HBA      :  (afc9xxx, 1)  Adaptec AFC9xxx
  0, 2, 0:  DISK     : SEAGATE ST318304FC     0001
  0, 3, 0:  DISK     :  IBM    DDYS-T18350            0002
```

Read printed messages if any. If your installation has failed, these messages will help you to determine why it failed. Follow the instructions in the UnixWare documentation and in this Installation Guide to retry the installation.

Installing the Driver When UnixWare is Already Installed

To update or install the Adaptec Fibre Channel driver on a system where UnixWare is already installed, follow the instructions in this section.

CAUTION Improper or corrupt driver updates might destroy your existing UnixWare file system. Back up all important files before proceeding. Consult your UnixWare documentation for proper backup procedures.

STEP 1 Back Up the Computer: Back up the old UnixWare kernel and any other important files.

STEP 2 Load the package by typing:

```
# pkgadd -d diskette1
```

This message is displayed:

Insert diskette into Floppy Drive 1
Type [go] when ready
or [q] to quit: (default: go)

Press Enter.

This message will appear:

Installation in progress. Do not remove the diskette.

The following packages are available:

1 afc9xxx Adaptec AFC9XXX Driver for UnixWare 7.1.x
(i386) d1.00

Select packages(s) you wish to process (or 'all' to process
all packages). (default: all) [?, ??, quit] :

Type 1

Press Enter.

Upon completion this message will appear:

Installation of Adaptec AFC9xxx Driver for UnixWare 7.1.x (afc9xxx) was successful.

Insert diskette into Floppy Drive 1
Type [go] when ready
or [q] to quit: (default: go)

Type q

Press Enter to quit.

STEP 3 When the installation is completed, remove the disk and rebuild the kernel by typing the command:

```
# /etc/conf/bin/idbuild -B
```

Press Enter.

STEP 4 Verify the correct driver is installed by typing the command:

```
# pkginfo -1 afc9xxx
```

STEP 5 Reboot the system to make sure the system boots correctly. Type the command:

```
# init 6
```

The following sequences will happen after the `init 6` command is issued:

- Terminates running services.
- Save your /stand/unix to /stand/unix.old then
- copy the new kernel from /etc/conf/cf.d/unix to /stand/unix.
- reboot system.

NOTE Remember that UnixWare commands are *case sensitive*. Enter the commands exactly as shown.

Removing the Driver

To uninstall the Adaptec Fibre Channel driver:

STEP 1 Start UnixWare and login as root.

STEP 2 From the UnixWare console, type this command:

```
# pkgrm afc9xxx
```

Press Enter.

This message will appear:

Do you want to remove this package [yes,no,?,quit]?

Type `Yes`

Press Enter.

STEP 3 When the uninstallation is completed, rebuild the kernel by typing the command:

```
# /etc/conf/bin/idbuild -B
```

Press Enter.

STEP 4 Reboot the system to make sure the system boots correctly. Type the command:

```
# init 6
```

The following sequences will happen after the `init 6` command is issued:

- Terminates running services.
- Save your /stand/unix to /stand/unix.old then
- copy the new kernel from /etc/conf/cf.d/unix to /stand/unix.
- reboot system.

If System Crashes after Installing or Removing the Driver in a Running UnixWare System

You may have to boot from the backup kernel created earlier and then perform the driver update/removal procedure again. To boot from the old kernel, follow these steps:

STEP 1 Reboot the computer.

STEP 2 At the Booting UNIX System... prompt or loading UnixWare graphics, press the Spacebar. This will take you into a boot prompt.

STEP 3 From the boot prompt,

Type `dir` to list all files in /stand directory; unix.old is one of the files the system has saved for you before the last reboot.

Type the following to boot with the old kernel:

```
BOOTPROG=unix.old
```

Press Enter.

Type `go` then press Enter.

STEP 4 Your computer should now boot from the backup kernel created earlier.

STEP 5 Save the backup kernel to names other than unix.old. Doing so would prevent system from overwriting your working kernel on the next build. Type:

```
cp /stand/unix.old /stand/unix.works
```

Press Enter.

STEP 6 Check log files for help in determining why the system crashed:

/usr/adm/log/osmlog
/usr/adm/log/osmlog.old

TROUBLESHOOTING

If you have any problems while installing the Adaptec Fibre Card 9210LP, check the following items first:

- Is the card seated evenly all the way into the PCI slot?
- Is bus mastering support provided and enabled for the PCI slot containing the Adaptec Fibre Card 9210LP?
- Is the SFP seated correctly into the adapter?
- Is the cable inserted all the way into the SFP?
- Is the cable inserted all the way into the HSSDC?
- Are all peripherals connected correctly throughout the loop?
- Have the LED lights indicated that:
  - PWR/ACT is on at power up?
  - PWR/ACT flashes after card is initialized?
  - LNK LED is on when link is up?
- When using cascading hubs, used the same hub vendors?
- Verified that at least one device in the loop is powered up if you are not using a hub or a switch? Hubs or switches detect devices that are not powered up and automatically do a port bypass.
- Checked that a switch is not attached to the channel port with the intended Boot device? If a switch is present and attached, the BIOS will not Boot.
- Checked the troubleshooting section of your operating system user manual?
- Checked the Windows NT and Windows 2000 Event Log if you encounter problems loading the drivers?
- For the Sun Solaris system, run the dmesg utility and syslogd facility to view messages and logging information? See the system man pages to determine how to configure and use these commands.

NOTE A possible cause of driver or device failure could be that the loop is not completed. In other words, the devices are not connected in a series to form a loop. This does not apply if you are using a hub or a switch.

If you are still unable to resolve a problem, see the *Adaptec Fibre Card 9210LP User's Reference*, the Adaptec Web site at http://www.adaptec.com, or the Adaptec Support Knowledgebase at http://ask.adaptec.com for additional troubleshooting information.

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Regulatory Compliance Statements

Federal Communications Commission Radio Frequency Interference Statement

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. However, if this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.
- Use a shielded and properly grounded I/O cable and power cable to ensure compliance of this unit to the specified limits of the rules.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Adaptec, Inc.	AFC-9210LP AFC-9210LPC
FC Tested to Comply With FCC Standards	
FOR HOME OR OFFICE USE	

CE

European Union Compliance Statement

This Information Technology Equipment has been tested and found to comply with the following European directives:

EMC Directive 89/336/EEC, as amended by 92/31/EEC and 93/68/EEC

EN 50081-1 (1992)
EN55022 (1994) Class B
EN 50082-1 (1992)
EN61000-4-2 (1998)
EN61000-4-3 (1998)
EN61000-4-4 (1995)
EN61000-4-5 (1995) Surges
EN61000-4-6 (1996) Conducted immunity
EN61000-4-11 (1994) Supply dips of variation

Australian/New Zealand Compliance Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS 3548 set out by the Spectrum Management Agency.

Canadian Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matérial brouilleur du Canada.

VCI

Japanese Compliance (Voluntary Control Council Initiative)

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